1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

antiquities, Kurdish lore and tribal traditions, some of whom had produced monographs of interest and value. Returning graduates from foreign universities had reached, at the least, the standard indicated by their doctorates, but few had been attracted by the deeper or more humane culture of the West. The study of Islamic dogma and history was still practised in both Sunni and Shi'i circles of the professional divines, and still attracted pupils; but its seeming divorce from the living world repelled the more active and vital of the rising generation; it offered a career less interesting than the professions or politics; and its appeal was without force to a society in which Islam seemed to have lost much (and in politics nearly all) of its hold. Professional standards, on the other hand, in medicine, archaeology, police and military studies, engineering, economics, and the applied sciences had risen beyond comparison above those of a generation earlier, and gave scope for the best qualities of the 'Iraqi mind.

The output of original literary work was small. The modern (linotype) presses installed since the Second World War produced mainly governmental or institutional works or pamphlets, largely educational. Western publishing methods were not in use; books were printed at the author's expense and sold with difficulty through a bookseller; workmanship in book production, especially in binding and illustration, was notably poor. The lack of demand (especially after the Jewish exodus), the unwillingness of the rich to patronize letters, and at times a capricious censorship, had discouraged writers; there were but humble traces of creative effort, and these confined to the fields of poetry (in which 'Iraq had always held its own in the Arab world) and to a lesser extent of fiction writing; women writers had earned a place in both. Interest in contemporary Arabic literature other than newspapers was slight, and the study of earlier Arabic works, though regarded as something of a national asset, did not greatly attract a younger generation, who preferred the writings of modern Europe. The dozen of monthly or quarterly magazines, which appeared at Hilla, Mosul, Basra, Najf, Arbil, and Kirkuk as well as at Baghdad, were in most cases the organs of various societies or government departments, and though competently written they had few subscribers and no great literary pretension. Kurdish literary activity, though on a diminutive scale, was of vitality and promise. 'Iraqi artists, on the other hand, were producing work of some interest, if almost wholly Western in inspiration; musical and dramatic studies were pursued at the Institute of Fine Arts, and more than one 'Iraqi musician—and at least one 'Iraqi cinema actress—had attained a creditable place.

The circumstances of its public life and the lively intelligence of

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

871 General in policy and co-ordination. Female education had secured equal rights with male; of 6,000 primary teachers in the Government schools, nearly a third were women, and a similar proportion among the secondary and higher teachers. Between government and private (including foreign) schools of all grades not less than 200,000 children were being educated, a figure annually and rapidly increasing. A small remnant only of the Jewish schools remained in existence; that of the Alliance Israélite had been closed. The Tafayyudh Society, founded in 1919 as a popular non-political educational body, continued its work to combat illiteracy and maintained its printing-press. Students still enjoyed important exemptions and privileges in their military service obligation.

874 Vocational schools covered technical instruction, domestic science, agriculture, public health, and police duties. The teachers' training facilities had been increased in 1949 by additional training classes instituted at a number of existing secondary schools, and standards had been raised. The university, in spite of repeated

873 expert recommendations, was still an unrealized project; but higher education was available at the Law School, the Engineering College founded in 1942 and broadened in 1951, the Royal College of Medicine with its associated schools of Pharmacy and Nursing, the College of Agriculture, the College of Arts and Sciences founded in 1949, the Institute of Fine Arts, the College of Commerce and Economics founded in 1951, the Royal Military Academy and Royal Staff College, and the Higher Police Training School. Considerable numbers of pupils attended European or American universities; these would increase with the greater funds which were soon to become available and with the development of oil company programmes of technical and scientific training. Public libraries existed at every liwā headquarters.

172 The department of Antiquities had continued to develop its admirably enriched Museum (which it was soon to exchange for more adequate premises), to deal with the learned world, and to conduct or supervise the excavation of ancient sites. In the period from 1946–50 expeditions from the department were active at Tall Abu Shahrayn, near Ur: on the lower Diyalā: in the Arbil plain: in the neighbourhood of Chamchamal and of Sulaymaniya: and at Hadhr near Sharqat. Expeditions from American seats of learning—Chicago, Pennsylvania, Harvard—dug at sites in the district of Kirkuk, in those of Chamchamal and Baradost in Kurdistan, and near 'Afak on the middle Euphrates, and a mission of the British School of Archaeology in 'Iraq excavated for three seasons at Nimrud. The work of these scholars of whatever nationality drew, with great goodwill, the attention of the academic world to 'Iraq's archaeological wealth and present fortunes. Both

3: Clark S-5 (1950)1951 MH1 Iraq MH1

higher levels of education but, in general, the basis for most of them is acquired in the primary school. Before considering, therefore, ways and means of advance towards compulsory primary education for all children, it will be desirable to ascertain to what extent these general educational needs are met in the existing primary schools system. If it should be found that the primary schools do not adequately meet these needs, it may be wise to advocate qualitative reform in primary schooling before ambitious quantitative advance.

SPECIAL EDUCATIONAL NEEDS

In addition to these general educational needs, and partly arising from them, there are two outstanding needs which are connected with the economy of the country and the transitional stage through which an important section of the population is passing.

The Need for Realistic Rural Education. The first outstanding need is that of realistic rural education. In a country whose future development and prosperity is so bound up with the necessity for agricultural improvement, it is important that the schools of the countryside should relate their activities to rural pursuits. As the following extract from the report of the Monroe Commission, issued in 1932, indicates, there is nothing novel in directing attention to this vital educational requirement in Iraq:

> Agriculture as a science is comparatively recent. As a science it has not yet entered Iraq to any great extent. Here it is still predominantly a rude craft; most of those who live by agriculture use primitive methods of farming and stock-keeping of generations or centuries ago. If these out-worn methods are to be replaced by better ones the change must be worked through education, and largely through the village school. . . .
>
> If the work of the village schools is to be determined by the actual and present needs of the people they are set up to serve, then they should first of all become a means of teaching the people how to make a better living from the land. The village school should provide more vital instruction and training in improved agricultural methods; manual arts; the importance of native industries; the proper breeding and selection of seeds. . .

With certain modifications, due mainly to the efforts of the Directorate of Agriculture, these observations of the Monroe Commission are as valid in 1950 as they were in 1932. They will need to be taken into account at a later stage of this study when the type of advance towards compulsory education in the countryside is being considered.

3: Clark S-5 (1950) 1951 MH1 Iraq MH1

872 876 promotion, is indicated by the following extract from a teacher's introduction to the first issue of a primary school magazine:

'Our Magazine.
Dear Pupils,
This is the first number of our school magazine. I want every pupil to read it very carefully because it is for you, not for the teacher.
Please read this paper carefully and ask me any question about it. If you do as I say, you will succeed in the examination.
Your Teacher,
Signed .....'

874 654 *The Agricultural Primary Schools.* The need for realistic village schools in Iraq has been advocated in the Report of the Monroe Commission and elsewhere. They have taken a long time to materialize, but there are now signs of progress.

In 1948 the Ministry of Education requested the Provincial Directors of Education to establish an experimental primary school in each province. One such school has since been provided in most of the provinces, not as an entirely new project but as an extension of an existing primary school. Several acres of land have been attached to these schools and some of them keep a limited amount of livestock. Some have modest dairy equipment, a stock of hand tools for the pupils and an agricultural machine such as a power-driven cultivator. One or two have a tractor. In the irrigation districts some possess their own water pump.

Unfortunately these schools were established during a period of retrenchment, and although the Ministry of Education launched this important experiment it was apparently unable to provide the money for other essential buildings and equipment such as handicraft shops, simple laboratories and materials for experiment. It was also unable to provide every such school with a teacher acquainted with the basic practice and principles of farming. Despite these initial handicaps, some of the agricultural primary schools have started courageously and have attempted to free [177] themselves from a purely academic curriculum. In certain of the schools, apart from teaching methods of normal cultivation, experiments are being made in the growth of crops hitherto unfamiliar to the local economy. Indeed one teacher claims that, through his introduction of American cotton on to the school farm, the local landowner has since grown this crop on a large scale and has made a substantial profit from it. If this is so, it certainly illustrates the extra-mural influence of a village school which adjusts its curriculum to real life situations.

for some time. Women have been employed so far only in exceptional cases. A new problem has been recently experienced in the high turnover of ordinary labour. Owing to the development of the oil industry in Kuweit and other Persian Gulf areas, and the high wages being paid there, many workers in Baghdad, and more still in the depressed farming areas, have been emigrating there. The turnover in the cotton textile industry of Iraq is estimated at 20 per cent of employed labour. 464

The main difficulty however lies in the shortage of skilled and semi-skilled labour. The vast amount of illiteracy among the population, and the failure to make elementary education compulsory has made it difficult to apply any system of apprenticeship successfully. Technical education provided by the State has so far been on a very limited scale - indeed, there are only three technical secondary schools in the whole of Iraq. Therefore a new industry has often first to train its own labourers and technicians, and this of course adds to costs. In the meanwhile, most industries are dependent on foreign technicians, experts, constructors, heads of sections, and foremen. The employment of foreign technicians no doubt is inevitable in the early stages of development, but it has its own drawbacks and burdens. Foreign skill demands higher rewards abroad than it would accept at home, the standard of skill obtained is often not the highest, service is often interrupted either by ordinary leaves, or illness or inability to fit in with local conditions. [212 871 874]

The lack of qualified labour also applies to the fields of administration, accounts, and management. Efficient clerks, typists, store-keepers, accountants and secretaries are in great demand and very few are available in Iraq. The inadequacy of State commercial education is no less than that of technical education. The scarcity of able management is a serious obstacle to the progress of industry. Those few who have entered the field of industry are mostly of the type of proprietor-manager (even in joint-stock companies managers are usually fairly large share-holders); while the members of boards of directors of industrial companies, (about twenty to twenty-five men) mostly have their own business or profession to attend to. No wonder they show reluctance to go into new enterprises. For one reason or another salaried managers have not made their way into industry, except in very rare cases. On the other hand foreign management, especially on the [658 874] 464 472 473

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attention is devoted to administrative and regulatory tasks. The relatively small number of agricultural officers in the provinces are engaged primarily in the distribution of seed, in the collection of rather inadequate statistics and in administrative tasks. They lack the time, the transport facilities, and, often, the ability to counsel farmers on methods of improving their output. While shortages of trained personnel will prevent the immediate establishment of a full-time extension service, the Mission recommends the early appointment of a director of extension and education whose first responsibility would be the recruitment and training of personnel for such a service. The need is for people well-grounded in practical, general agriculture rather than specialists. The facilities of the secondary agricultural school and the higher agricultural institute at Abu Ghuraib might well be used to train the required people, provided the quality of the staff is improved and the curriculum revised, especially in the direction of giving more practical training in agriculture. It will be impossible, however, to attract properly qualified people to an extension service unless the status of agricultural officers in the provinces is considerably raised and their conditions of service, particularly housing and pay, are greatly improved.

The effectiveness of such an extension service would be greatly enhanced by the organization of demonstration units on strategically located government and private farms. There, farmers could be brought to see with their own eyes the practical advantages of improved methods of raising livestock, poultry and farm crops. At the same time the extension service might work closely with the public schools in the rural areas and small towns to insure that a knowledge of the rudimentary principles of agriculture is instilled in children at an early age. Rural primary and secondary schools should give agriculture an appropriate place in their curriculum.

An extension service must be backed up by sound, practical research which will develop new crops and more productive varieties, improved livestock breeds, better methods of cultivation, and more effective control of pests and diseases. At present there are few people engaged in full-time research. Government farms are devoted primarily to the commercial production of seed, serving neither as demonstration farms nor as centers for extensive

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466 467 greater benefits through collective bargaining. At present, labor laws set up certain requirements with respect to hours of work, periods of rest, vacations, employment of minors and compensation for disability. The Labor Department, however, is inadequately staffed to enforce the law and the many reported violations are generally allowed to go uncorrected. In 1949-50, of 1,228 enterprises inspected, only 136 were found to comply with the law. Of the remainder, 974 were simply warned and 118 cases were referred to courts. It would be desirable to enforce existing legislation before enacting other labor laws. Efforts are apparently being made to survey the possibility of introducing a social insurance system into Iraq. Under existing conditions, however, any social insurance law might tend to remain a dead letter.

874 464 [212] Training of labor is impeded by the prevailing illiteracy which makes instruction in writing largely impossible. Elementary schooling and adult education are therefore essential to the improvement of labor efficiency. There is in existence a secondary technical school which attempts to train intermediate school graduates in industry. The curriculum of the school, however, lays too little emphasis on practical training; and the graduates of the school show a disinclination to work with their hands. It would be far better to rely on apprenticeship systems for the basic practical training, and to use the school primarily for supplementary instruction of a somewhat broader character which might be needed by the more highly skilled workers and foremen. Those who are trained in the shop or on the site through such apprenticeship systems can then be recruited from the ranks of the laboring class which is accustomed to manual work. Large private companies and public enterprises like the Iraq Petroleum Company, the railways and the Basra port administration all possess large machine shops where varied training can be imparted to many more than at present. It is suggested, therefore, that the government enlist their cooperation in the training of skilled workers for Iraq's requirements generally.

Commercial and business education is also important. Government, banking and commercial firms, and industrial concerns are all handicapped by a shortage of competent typists, stenographers, clerks, bookkeepers and accountants which has been aggravated by

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the exodus of the Jews. For industry the training of good cost accountants capable of checking the efficiency of various types of operations is especially vital. A single secondary commercial school, supplemented by a night school, and a higher College of Commerce and Economics have been established to meet the need for business training. The first appears to be functioning along sound lines, although it suffers from inadequate quarters and a shortage of teachers. As soon as competent teachers can be trained or recruited, secondary commercial schools should be opened in the other principal cities, particularly Basra and Mosul. On the other hand, the College leaves much to be desired from the standpoint of both the curriculum and the standard of instruction. It apparently produces neither competent and practical bookkeepers and accountants, nor people well-grounded in economics and finance, capable of acting as company secretaries or as economic and financial experts in business or government. Greater emphasis should be placed on practical training; the teaching staff must be strengthened, and more attention paid to banking and accounting, particularly cost accounting. Advisory committees consisting of representatives of leading banks and business houses should be appointed to both the College and the secondary school to review the curriculum, make provision for part-time apprenticeship training and check how well graduates of these institutions measure up to the requirements of business.

IV. Transport and Communications

On the whole, the existing transport system serves the present needs of the country adequately (see map). For the future the principal problems will be to make provision for essential renewals of track and rolling stock and to standardize the gauges on the railways; to develop an adequate network of metalled main roads, supplemented by feeder roads; and to establish effective control over road transport. If these problems are solved, transport capacity should have no difficulty in meeting the growing requirements of agriculture and industry.

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primary school education and much of the investment in their education accordingly bears little fruit. The facilities and quality of technical or vocational education are seriously deficient and adult education has been almost wholly neglected. Probably about 80 percent of the men and over 95 percent of the women remain illiterate. Moreover, educational concepts are far too narrow and too little related to the everyday problems of living.

As the result of its study of educational needs the Mission has come to the conclusion that the government should launch a three-part program involving (1) the improvement and extension of technical education, (2) the gradual introduction of compulsory primary school education, and (3) fundamental education for adults.

Technical Schooling

The question of technical or vocational education is not treated in detail here, partly because it has already been discussed in connection with agriculture and industry, partly because the government has requested UNESCO to send a special mission on vocational education. Although the number of students in technical schools—about 750—seems very inadequate, Iraq apparently has had difficulty in absorbing the graduates of these institutions largely because they lack sufficient practical training and they show a distaste for manual work. Obviously one of the first steps toward improved technical training will be to give the curriculum of the intermediate and secondary schools a greater vocational bias, with emphasis upon the dignity and value of manual labor. It is also worth emphasizing again that skilled labor and foremen can best be recruited from the ranks of active young workmen through on-the-job training programs, supplemented in some cases by technical schooling. Only the higher supervisory grades of personnel need to be trained in technical schools, and even for these there should be considerable emphasis on practical training in business, industry and agriculture as an integral part of the curriculum.

Introduction of Compulsory Primary Education

There is a general consensus both among Iraqi educators and foreign experts who have examined the problem that the time has come for a broad advance in the direction of compulsory education.

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poultry demonstration units in all parts of the country. Suggestions for such livestock units have already been made. In many cases it will not be necessary to establish government-owned farms, for it should be possible to stimulate the more enlightened landowners to lead the way in adopting better methods and permitting those in the neighborhood to come and see for themselves the results achieved. The ultimate goal should be to make some practical demonstration of the value of such improved methods accessible to nearly all cultivators. In addition the officers of the extension service would need to work intimately with the rural primary and secondary schools in a program to bring children a knowledge of the principles of good agriculture and animal husbandry as early as possible. They should also play a prominent role in any adult education programs launched by the Ministry of Education. For this purpose they should be equipped with visual teaching aids.

Obviously, such an extension service cannot be created overnight. The first step should be to appoint an expert who has had considerable experience in extension work abroad to recruit and train the necessary staff and take other preparatory measures. His initial staff might consist of an assistant responsible for collecting materials for use in the service and two or three supervisors to direct the gradually increasing amount of advisory work in the field. A few people should be sent abroad each year to gain practical experience of extension work. The supervisory personnel would initially have to be obtained abroad. Those officers who would work directly with farmers and livestock keepers in the field should not be highly specialized. Rather they need a good general training in agriculture and animal husbandry. In the past too much stress has been placed on specialization.

Many of the candidates for the extension service could be educated at the secondary agricultural school and the more advanced institute at Abu Ghuraib. The first of these now gives a three-year course to students who have completed three years of secondary schooling while the latter provides a two-year advanced course to graduates of secondary schools. The institute's course has recently been extended to three years and will soon be increased to a full four years leading to a bachelor's degree in agriculture. Both these schools should be in the position to train

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242 874 forward-looking men for actual farming as well as for posts in the agricultural administration and the extension and educational service. Unfortunately their teaching staff and curricula have been deficient in many respects. The teaching staffs should be strengthened by recruiting additional qualified teachers abroad and by using specialists engaged in agricultural research to teach their specialties. More practical agricultural work should be incorporated into the curriculum. Students in the institute, for instance, might be required to remain on the government farm at least one or two summers and complete a course in practical agriculture. This course would include the actual operation of farm machinery, the establishment of simple plots to demonstrate yield, crop adaptation and other agricultural techniques, and the care of livestock. It is important that students actually work with their hands during such a course, for there is no room in a field extension service for officers who consider manual work degrading. In addition to their regular instruction, both schools should be equipped to give brief courses from time to time in special subjects such as the operation and maintenance of machinery, animal husbandry, soil analysis, forestry, and techniques of extension work.

242 It will be some years before sufficient people can be recruited and trained for an adequate extension service. In the intervening period a complete separation between the extension service and the regulatory and inspection service cannot be carried out. Those newly trained would join the existing service and carry out both types of work, with the expectation, however, that growing emphasis would be placed on extension work. Consideration might be given, however, to establishing a full-time extension service as soon as possible within one or two areas limited to a few selected *qadhas*, so that different methods of working with farmers could be tested.

Ultimately it will be desirable to separate the extension service from the inspection and regulatory service. The latter might then be organized into two sections: one dealing with control of injurious pests and diseases, maintenance of standards for agricultural and livestock products, fertilizers and insecticides, and surveys of production and land use; the other concerned with the production, processing and distribution of pure agricultural seed

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Technical Education

If industrial growth is to be accelerated, it is essential that measures be taken to provide industry with skilled labor. The Industrial School at Baghdad was established to meet this need. The curriculum of the school, however, lays too little emphasis on practical training and the graduates show a disinclination to work with their hands or to take secondary positions. It would be far better to rely on apprenticeship systems for basic practical training and to use the school primarily for supplementary instruction of a somewhat broader character which might be needed by the more highly skilled workmen and foremen. Those trained in the shop or on the site would then be recruited from the ranks of the laboring class which is accustomed to manual work.

Apprenticeship systems have worked well for the Iraq Petroleum Company, for the national railways and the Basra Port Administration, all of whom have highly skilled workers trained in their own shops. Each of these organizations possesses large machine shops which could be used to train many more workers than at present. The Mission suggests that the government, through the agency of the Industrial School, enlist their cooperation in enlarging their programs to train workers for industry generally.

Commercial and business education is also important. Banking, commercial and industrial firms, as well as the government, are all handicapped by the shortage of competent typists, stenographers, bookkeepers, clerks and accountants. In industry the training of good cost accountants, capable of checking the efficiency of various types of operation, is especially vital. A single secondary commercial school, supplemented by a night school, and a higher College of Commerce and Economics have been established to meet the need for business training. The first appears to be functioning along sound lines, although it suffers from inadequate quarters and a limited teaching staff. As soon as competent teachers can be trained or recruited, secondary commercial schools should be opened in the other principal cities, particularly Basra and Mosul. The College, on the other hand, leaves much to be desired from the standpoint of both the curriculum and the standard of instruction. It apparently produces neither competent and practical bookkeepers and accountants, nor people well grounded

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463 874 in economics and finance capable of acting as company secretaries or as economic and financial experts in business or government. Greater emphasis should be placed on practical training; the teaching staff should be strengthened; and more attention should be paid to banking and accounting, particularly cost accounting. Advisory committees consisting of representatives of leading banks and business houses should be appointed to both the College and the secondary school to review the curriculum. They could assist in arranging for part-time apprenticeship training and would provide a means for checking how well graduates of these institutions measure up to the requirements of business.

Effective Government Organization for Industry

647 654 Government activities relating to industry, except for the Industrial Bank, are now handled by a Department of Industry in the Ministry of Economics. This Department under its present director concentrates primarily on research and laboratory work and is not equipped to analyze and record the commercial and economic operations of industry. As industry expands both types of activity will become increasingly important. The Mission therefore recommends a realignment of the present organization to provide for two separate departments within the Ministry, a Department of Industrial Research and Standards and a Department of Industries. Research and technical functions now being carried on would be continued under the Department of Industrial Research and Standards. Its facilities need, however, to be expanded to meet industry's growing requirements for laboratory testing and quality control.

The newly organized Department of Industries would carry on economic research and analysis. Among its functions would be the maintenance of adequate statistical records of industrial production, the analysis of economic problems relating to industry such as marketing, and the administration of the laws providing special protection to industry.

Both departments should gradually be equipped to give increasing assistance to industry in improving its output and reducing its cost of production. This type of assistance should be stressed more and more in the future, as compared to special mea-

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Additional provision for reconstruction of the Karkh and Kut Hospitals	ID	200,000
Repairs to the Maude Hospital (Basra), Amara Hospital, Erbil Hospital and Suleimaniya Hospital		250,000
Infectious disease blocks for the Erbil and Mosul Hospitals		65,000
Maternity block for the Hilla Hospital		25,000
Laundry for Diwaniya Hospital		12,000
Additional wards for Mosul and Kirkuk Hospitals		80,000
Completion of Mental Diseases Hospital		250,000
Additional provision for operating facilities at Royal Hospital		50,000
Children's Ward at Royal Hospital		40,000
Maternity block at Royal Hospital		40,000
Dental equipment for hospitals		20,000
Total	ID	1,032,000

As it becomes possible to devote more attention to increasing facilities for treatment, priority should be given generally to the construction of additional dispensaries in the rural areas.

Doctors

At present there is about one practicing doctor to every 7,000 of the population, but many of the doctors are concentrated in Baghdad. Only about 35 doctors are now being registered annually, but with increased accommodations and more laboratory facilities, it will be possible to enroll more students so that at least 50 will qualify as doctors annually. This number may be sufficient for Iraq's needs, provided that an adequate number of suitably trained health officers are available for service in village dispensaries and that nurses and dressers receive more training.

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Doctors receive their training at the Royal Faculty of Medicine, which was founded in 1927. The syllabus and teaching seem, on the whole, to be good. They emphasize adequately the study of the endemic diseases, although they do not give enough weight to the teaching of public health and preventive medicine. The recent appointment of a professor of public health should give a better balance to the program of instruction. Public health as such should probably be taught as a postgraduate course. It would include such subjects as public health administration, public he

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standards of nursing are not high. However, the three-year nursing course given at the Royal Hospital is comprehensive and includes all the common branches of nursing.

Unfortunately in Iraq, as in many other Moslem countries, nursing is not at present looked upon as a suitable career for Moslem girls of good family. Probably one of the best means of inducing girls to take up nursing is to demonstrate through the employment of foreign nursing sisters that nursing is regarded abroad as a highly qualified and reputable profession. More women might also be attracted to this profession if they were given suitable living quarters and accorded a position in the government service equivalent to that of elementary school teachers.

The one central nursing school in Baghdad will not supply the needs of the country. Since many young girls will not leave their homes to go to school, it will be necessary to set up local schools for nurses and also for dressers. Training for practical nurses should be started at Basra, Mosul and Karkh hospitals and eventually every province should have such a school. Candidates should have had at least six years of preliminary schooling and the course itself should last a year. It is suggested that two foreign nursing sisters, preferably English-speaking, be appointed to each province to act as nursing supervisor in the chief hospitals and as "principal" of the local nursing schools. It would also be desirable to assign to each school a sister-tutor—a graduate of the central school.

At the same time, nursing supervision needs strengthening in the Royal Hospital where at present there are only three foreign nursing sisters for 680 beds. For efficient operation the Royal Hospital needs the following foreign nursing sisters:

1. One matron
2. One assistant matron
3. One sister tutor
4. One sister for the maternity block
5. One for the children's wards
6. One for infectious diseases hospital, and
7. Two for general duties.

It is most important that every foreign nursing sister should get to know, as quickly as possible, something of the language, mode of life and habits of the people.

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An estimate of the cost of the full scheme follows:

(a)	CAPITAL	
	(1) Quarters for women nurses	ID 125,000
	(2) Demonstration rooms	28,000
	(3) Quarters for foreign sisters[1]	80,000
	(4) Equipment, etc.	7,000
		ID 240,000
(b)	RECURRENT	
	Salaries for foreign sisters (only)	ID 37,000

Training schools are also necessary for hospital storekeepers, laboratory assistants, radiographers and probably for physiotherapists and dispensers. Storekeepers should be appointed to every hospital to preserve equipment and to check the use of expendable items. Dressers, who are already familiar with the names of many articles used in hospital work, would probably be the most suitable candidates for training. The schools could be started with the existing staff and facilities of the Royal Hospital and of the Central Medical Stores, and as each trained group is ready to go to work an appropriate pay scale ought to be established for them.

Pharmacists and Medical Supplies

A School of Pharmacy and Chemistry was founded in 1936. The five-year pharmacy course is comprehensive and the facilities for teaching, including laboratories, are good.

So far 218 pharmacists have qualified from the school but many have gone into private work and only 64 remain in government service. Apparently the salary paid to a pharmacist working in a private shop is at least twice as high as that paid by the government. Further, a number of qualified pharmacists have recently left the country. With the existing accommodations the school can graduate about 20 pharmacists annually. Meanwhile there are only 64 pharmacists working in the 89 hospitals and in some hospitals the dispensing, including that of poisons, appears to be carried out entirely by health officials.

[1] It is estimated that 37 foreign nursing sisters would be required: 27 for the 14 provinces (there is already one in Basra); five for the Royal Hospital at Baghdad; and five additional for replacements during sickness and leave.

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additional centers, to bring about an almost complete eradication of illiteracy within the period specified.

Thus it may be tentatively estimated that the total recurrent cost of adult education as scheduled in the above table would amount over 15 years to ID 1,280,000, to which a nonrecurrent cost for equipment estimated at ID 45,000 would have to be added. If the expenditure for the initial five years is also taken into account, then the total cost of the 20-year adult education program will be approximately ID 1,355,000. Even if the total reaches ID 2,000,000, the cost cannot be regarded as a high price to pay for the virtual eradication of illiteracy among the adult population and the inauguration of a broad program of adult education.

IV. Agricultural and Technical Education

The need for and urgency of a program for the improvement of agricultural and technical education has been stressed elsewhere in this report.[4] Such a program for technical education may, however, prove wasteful and disappointing unless it is planned intelligently at every stage with reference to the developmental needs of the country and steps are taken to insure that its qualitative standards are high. A competent specialist should therefore survey the whole field of agricultural and technical education in order to determine the adequacy of present facilities and the need for trained technical personnel during the next 10 years in the light of the total development program projected by the government. It is understood that UNESCO is providing specialists for this purpose. It is important that these specialists be enabled to obtain some idea of the total requirements in the field of technical personnel, the number of such persons available in different fields at present, the need for additional personnel, the policy to be followed in training Iraqi technicians in the country and abroad and the extent of the need for foreign technicians to meet immediate needs. In view of the limited size of the country and the fact that technically educated persons are almost all to be found in

[4] See Annex C, *Agriculture and Animal Husbandry*, pp. 251 *et seq.*, and Annex D, *Industry*, pp. 297-8.

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874 Baghdad or the larger cities in the province, either employed by the government or by a few well-known technical concerns, it should not be difficult to ascertain how much scientific manpower is actually available. Similarly, it would be comparatively simple to assess the needs of additional technical personnel in the various fields when the projects of development to be put through during the next 10 years have been finally selected.

While detailed recommendations for the reorganization of technical education will be made by these specialists, a few important points which should be taken into consideration in formulating a policy are noted here.

There can be no improvement in the standards of technical education or in the efficiency of trained students, unless general school education is made more practical from the earliest stages and is given an increasing vocational bias in the intermediate and [461] secondary schools. The Mission received evidence from all quarters that there was a general lack of enthusiasm, if not actual antipathy, for manual work on the part of the students, whether trained in general or technical schools. When students from these schools go to technical institutions and take their diplomas and degrees, they are anxious to get government jobs where they can act as "bosses" and "officers" and they fight shy of manual jobs whether on the farms or in the factories and machine shops. There is nothing either in the psychology or the religious and ethical traditions of the Arab race to justify such a mentality. As a tradition of the Prophet of Islam has it: "Al-Kasibo Habeebul-lah," which may be translated as "He who earns his living (by the sweat of his brow) is a friend of God." Eradication of this aversion to manual work should form an important objective of educational policy at all stages.

It is certain that, in view of the proposed technical development, a much larger number of technically trained young men will be required in the coming years and technical education will need to be strengthened both quantitatively and qualitatively. There is fairly general agreement on the part of those who are familiar with the existing technical schools that the training they provide is neither sufficiently practical nor closely enough related to the conditions that obtain in the factories and the market. The result is

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that most of their graduates are not equipped to set up a workshop or business of their own or even to find useful employment in established private business. Instead, most of them hanker after government jobs or clerical positions in banking and commerce.

The total number of students in all technical institutions at present is a little more than 750. This is very small both in relation to the total population and the growing technical needs of the country. Moreover, so far as the Mission could discover, many technical graduates are not being fully utilized in types of work for which they are qualified. This represents a source of wastage which can be avoided partly by better coordination between technical schools and technical occupations, and partly by placing more stress on practical training in the schools. In expanding the existing facilities, provision must presumably be made for (1) the training of full-time students, and (2) supplementary training of promising workers selected from factories and workshops. In the latter case the course will need to cover not only the kind of technical knowledge best imparted through classroom instruction but also any deficiencies in formal education such as reading, writing and mathematics. In both cases the practical training with tools, machinery and other types of equipment should be given in well-equipped workshops like those of the railways and the Iraq Petroleum Company. Technical education should therefore be planned jointly with the management of such shops, and a system of apprenticeship should be instituted in all factories and on construction projects.

The State has sent about 780 candidates for study abroad during the last 10 years. It will no doubt be necessary to continue this policy for some years but it should be carefully reviewed in the light of the developing needs of the country. The Mission would urge three points on the attention of the government in this connection. First, the availability of training facilities abroad should not delay establishment of such facilities in Iraq, particularly for the training of people at what may be called the intermediate level. Local technical institutions should give special attention to training foremen and supervisors who would act as intermediaries between the highly trained engineers at the top and the semiskilled or unskilled labor. There is a general com-

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874 plaint regarding the paucity of this type of trained foreman and it may well be regarded as the weakest link in the technical force available to the country. In this connection it would be advisable gradually to raise the standard of qualifications prescribed for direct entrance to technical schools. While arrangements should certainly be made, as already suggested, for part-time training—in evening classes—of selected factory workers who may have low academic qualifications, there is no reason why semiliterate candidates should be admitted to full-time training in the technical schools.

Second, the Mission suggests that, in selecting candidates for foreign training, an effort should be made to take an adequate proportion from among those who have actually worked in factories and workshops and have given evidence of practical skill and capacity, provided, of course, they possess the requisite qualifications for admission. The training of such candidates is likely to prove more useful to the country, in some ways, than that of graduates fresh from technical institutions who may seek foreign training chiefly in order to secure government jobs.

Third, programs for technical training of Iraqis both at home and abroad should be worked out in consultation with the Development Board. The latter will need to determine the technical manpower requirements and make sure that training schemes are focused in the first instance on satisfying these requirements.

Finally, the Mission would like to stress the great importance of giving agricultural education its proper place not only in the field of technical education but also in that of general education. Agriculture is, and will continue to be, the main industry of the country. It will not be possible to improve the conditions of the rural population unless productivity is increased, and, through education as well as agricultural extension work, the adults and the younger generation are made increasingly conscious of the importance and dignity of farming as a profession. It should be the function of schools, adult centers and agricultural extension work to bring accurate and fruitful knowledge about better methods of agriculture and allied subjects to the cultivators in the countryside and the children who are being educated in the schools.

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helminthosis are endemic. There are occasional outbreaks of smallpox, typhus, and more rarely plague and cholera. With the greater provision in the budget for schemes of public health, the increased employment of international specialists and the considerable assistance tendered by the World Health Organization, there is every prospect that the incidence of endemic diseases will be greatly reduced. Fundamental results may be expected from modern medical training, with emphasis on the environmental aspects of disease and the need for prevention as much as or even more than cure, and, above all, from the efforts of the administration to improve the environment itself, with especial reference to drainage and water-supply. In addition, attention is to be paid to the public health aspects of the pilgrimages. The curative services have in general received more attention than the preventive and have improved considerably in the past thirty years. Simple conditions are treated in some 400 state dispensaries, distributed fairly evenly throughout the country but varying in their equipment and staff; it has hitherto proved difficult to attract doctors to the provinces and particularly to the rural districts. Each *liwa* centre has a general hospital, the larger towns more than one. There are also specialized hospitals for maternity and child welfare, for infectious, chest, eye, venereal, and mental diseases, and for lepers. The army, police, railways, Port of Basra, Ministry of Education, and oil companies maintain their own medical services and hospitals, and there are in addition an American Mission Hospital and a number of private nursing homes. A five-year programme, financed by the Development Board, will provide for the repair, extension, and replacement of medical buildings which have become old or inadequate. There is an acute shortage of well-trained nurses; attempts to expand the service are hampered by the reluctance of Muslim girls of good family to enter it.

Education

The state provides elementary, intermediate, secondary, and higher education, all, since December 1952, completely free. There are also private and foreign schools on a kindergarten, elementary, intermediate, and secondary level.

State Education. Primary education, by law universal and compulsory where facilities exist, begins at the age of six and continues for six years. It has been limited by a shortage of schools and trained teachers, especially in the villages. Plans are in hand to meet the need. The rapid expansion of state primary education is demonstrated in the following table:

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Year	No. of schools	No. of teachers	No. of students
1920–1	88	486	8,001
1930–1	316	1,325	34,513
1940–1	735	3,595	90,794
1950–1	1,101	6,967	180,779

(Source: Ministry of Education.)

Intermediate education (three years) follows the elementary and is followed by two years' secondary education. The number of state intermediate and secondary schools is also being rapidly increased, as the following figures indicate.

Year	No. of schools	No. of teachers	No. of students
1920–1	3	34	110
1930–1	19	129	2,082
1940–1	56	472	13,969
1950–1	121	999	22,707

(Source: Ministry of Education.)

Private and Foreign Schools. The former include those of the various religious communities, the latter British, American, and Persian schools. Figures for 1953 show an enrolment of some 15,500 pupils in the primary schools and 10,000 in the intermediate and secondary schools, representing about 6 and 25 per cent respectively of the total enrolment in the country.

Higher Education. The higher educational institutions, some of them coeducational, all under state control, are: Higher Training College for Teachers, College of Arts and Science, Law College, College of Medicine and Dentistry, College of Pharmacy and Chemistry, College of Commerce and Economics, Engineering College, Agricultural College, College of Religion, Military and Police Colleges, and Queen Aliya College, which provides girls with arts and, to some extent, secretarial instruction or prepares them for domestic science teaching and the expanding social services. The total number of students in these institutions is at present approximately 5,000. Figures for previous years are as follows: 1920–1 (one college) 65; 1930–1 (four colleges) 100; 1940–1 (four colleges) 900.[1] It is hoped in the near future to implement a proposal now under discussion for combining the higher institutions into a university.

Vocational Training. State vocational training on a secondary level, whose extension is being planned, may at present be divided as follows. *Industrial:* Government technical schools in Baghdad, Kirkuk, and Basra, with another planned for Mosul. The Agricultural Machinery Department of the Ministry of Agriculture is planning to establish training centres for mechan-

[1] Figures given by the Ministry of Education.

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874 ics in agricultural areas. Foreign advisers and instructors are being extensively employed. *Commercial:* secondary commercial schools in Baghdad, Mosul, Najaf, with night classes in Baghdad and Najaf. Commercial classes have been introduced into the ordinary secondary school curriculum in various cities. *Nursing and Domestic Science:* Schools of Domestic Science, Nursing, Midwifery in Baghdad. It has been proposed that instruction in the state vocational schools should be of such a standard that graduates could proceed at once to the relevant higher institutions. Other vocational establishments are the Iraq State Railways workshop training school in Baghdad and the IPC's technical training centre in Kirkuk.

873 An Institute of Fine Arts in Baghdad gives instruction in music, painting, sculpture, and drama and trains teachers in most of these subjects.

873 217 *Department of Antiquities.* The Department of Antiquities maintains an extensive programme of excavation, restoration, research and publication and has gained recognition for its work in international academic circles. It controls five museums in Baghdad, one each at Samarra and Babylon, and has recently opened one in Mosul.

Economic Survey

651 439 433 The greater part of Iraq's national revenue will soon be drawn from her oil, which represents an important fraction of the world's supply. Her general economic organization is nevertheless agronomic. Agriculture and animal husbandry practically suffice for her internal requirements of foodstuffs and provide, after oil, most of her exports.

135 Apart from oil, raw materials are sparse. There are deposits of salt, low-grade bituminous coal, gypsum, and sulphur and, in more limited quantities, of potassium nitrate, crystal quartz, sandstone, and dolomite. Building stone is found only in the 339 hill districts; in the alluvial plain mud and reeds are the com- 342 mon building materials of the poor, but houses of locally made burnt bricks are common in the towns.

185 652 [511] In 1950 a Development Board was established with the function of drawing up and, after parliamentary approval, executing a general economic and financial plan for developing the country's resources and raising the standard of living; it was to include but not be limited to projects for water conservancy, flood control, irrigation, drainage, industry, mining, and improvement of river, land, and air communications. For the execution of its programme the Board has been allocated 70 per

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facilities are available in the larger hospitals. The Veterinary Department in the Ministry of Economics also maintains a laboratory for research in the control of animal diseases.

Schools. The Royal College of Medicine in Baghdad was founded in 1927, and is the only medical school in Iraq. The Royal Hospital and the medical and associated schools are administered by the Dean of the Royal Faculty of Medicine. The course of instruction in the medical school covers 6 years, plus an additional year of internship. The teaching is in English, and a limited number of British and Dutch physicians are included on the professorial staff. The Iraqi degree meets the requirements of the General Medical Council of Great Britain. A complete medical education may be acquired at public expense, but graduates are obligated to serve for 4 or more years with the Ministry or some other government organization.

Schools for health officials and for nurses are affiliated with the medical school. The School of Health Officials offers a 5-year course for the training of medical assistants, many of whom are assigned to operate the rural dispensaries.

The School of Nursing and Midwifery is attached to the Royal Hospital and provides the standard 3-year course of instruction. Diplomas in midwifery are granted following a postgraduate year of work in that field. The development of facilities for the training of nurses is proposed by the Ministry of Health, and a nursing consultant has recently been appointed to the headquarters staff. A small training school for nurses is connected with the Seventh Day Adventist hospital in Baghdad. Courses covering 1 year of practical instruction are provided for nurses and midwives in hospitals in Kirkuk, Basra and Mosul. Male nurses and medical attendants are trained in the larger hospitals.

A College of Pharmacy and Chemistry is incorporated in the Faculty of Medicine. It

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offers 5-year courses for the training of fully qualified pharmacists.

Personnel

Physicians. The physicians registered in Iraq in 1950 totaled 811. Of this number, 543 were employed full or part time with governmental agencies. One hundred and ninety-two doctors were in private practice, and 6 were retired. Seventy were non-Iraqi, most of whom were working with the government, with the oil industry or with philanthropic organizations. The distribution of medical practitioners is extremely uneven; 444, or almost one half of the total in the country, were located in Baghdad province. The proportion of doctors in the Baghdad area averaged 55 to 70 per 100,000 population, as against 4 to 6 in the rural provinces.

Dentists. The registration for 1950 included 72 dentists, 29 in government service and 43 in private practice. Over 86 per cent of the latter group were established in Baghdad.

Nurses. There were 601 nurses in 1950, 497 of whom were employed in government institutions. The majority are probably graduates of the School of Nursing and Midwifery. Five British nurses were affiliated with the Ministry in 1951.

Other. Also in 1950, 803 midwives were licensed as "qualified" midwives, while an additional 9 were fully trained. Other medical personnel in the country included 69 pharmacists, 236 health officials or medical assistants, 341 vaccinators and 1,002 dressers.

DISEASES

The information available regarding the distribution and the prevalence of infectious diseases is sketchy. The official statistics compiled from the records of the government hospitals and dispensaries are derived only from institutions under the jurisdiction of medical officers, and are therefore limited in scope. The reporting of cases of

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